

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-009599**Date Inspected:** 08-Oct-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1845**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 645**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Guo Yan Fei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and Tower**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Larry Viars was present during the times noted above for observations relative to the work being performed.

Bay 9 - PMT

This QA Inspector monitored OBG Production Monitoring Test (PMT) # 2 for deck panels DP3065-001 and DP3051-001 at Gantry #2. The Magnetic Particle Testing (MT) of the tack welds was noted on the test panel as having been performed by ZPMC MT Inspector Ding A Cheng. The visual inspection of tack welds and root gap was performed by ZPMC CWI Guo Yan Fei (QC) ABF Representative Lv Yun (ABF), and this QA Inspector. The start time for welding of PMT was approximately 0015 hours on 10/09/09 and welding was completed approximately at 0041 hours. The welding appeared to be in conformance with welding procedure specification, WPS-B-T-2342-U1 (u rib)-4. This QA Inspector randomly verified and documented the welding amperage, voltage and travel speed during the gas metal arc welding (GMAW) and submerged arc welding (SAW) processes. After completion of both the GMAW root pass and SAW cover pass the welds were visually inspected by ZPMC QC, ABF QC and this QA Inspector. ZPMC QC and ABF informed QA Inspector that all six welds were acceptable and QA Inspector concurred. This QA Inspector witnessed ZPMC Ultrasonic Testing (UT) inspector, identified as Tang Xing Shan performed UT for depth of penetration on the 500 mm area designated by ZPMC QC for visual inspection. This QA Inspector selected fifteen designated locations for macroetch sampling per contract requirements. Each macroetch location was stamped by ZPMC personnel with the number 3065, as well as the letter W, and an individual macroetch identifying number for each macroetch. After removal from each of the weld test specimens and polishing and etching of the selected end, the macroetches were evaluated with a 7X

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optical magnifier and accepted by ZPMC QC, ABF QC, and this QA Inspector.

All fifteen sample macros appeared to meet requirements and were noted to appear acceptable. See Caltrans U-ribs PMT Inspection Sheet, ZPMC production monitoring test plate inspection report, and Caltrans Macro Etch Log - all dated 10/09/2009 for additional information.

This Caltrans QA Inspector performed Magnetic Particle Testing verification of OBG Deck Panel DP3020-001-001 through 008 and DP 3016-001-001 through 008 tack welds after ZPMC initial MT inspection. ZPMC personnel have made repairs of areas found unacceptable. ZPMC has not performed the final MT of the repair areas. No relevant indications were found during inspection. This is considered an in process verification and a TL-6028 report was not generated for the above mentioned verification.

Bay 10-

This QA Inspector observed the following work in progress: FCAW welding of South Tower Tower Lift 4 diaphragm to skin plate C weld, SSTL4-1-C/L-147 on the 119 meter double diaphragm bottom plate. ZPMC welder was identified as 057266. ZPMC QC is identified as Wang Chuan Qing. The welding appeared to be in conformance with welding procedure specification, WPS-B-T-4332-TC-P4-F.

FCAW welding of South Tower Tower Lift 4 diaphragm to skin plate C weld, SSTL4-1-G/L-137 on the 127 meter double diaphragm bottom plate. ZPMC welder was identified as 054069. ZPMC QC is identified as Wang Chuan Qing. The welding appeared to be in conformance with welding procedure specification, WPS-B-T-4332-TC-P4-F.

FCAW welding of South Tower Tower Lift 4 diaphragm to skin plate C weld, SSTL4-1-K/L-123 on the 143 meter double diaphragm top plate. ZPMC welder was identified as 053869. ZPMC QC is identified as Wang Chuan Qing. The welding appeared to be in conformance with welding procedure specification, WPS-B-T-4332-TC-P4-F.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

Summary of Conversations:

Only general conversation occurred between QC and QA this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, 150 0042 2372, who represents the Office of Structural Materials for your project.

Inspected By:	Viars,Larry	Quality Assurance Inspector
Reviewed By:	Dawson,Paul	QA Reviewer
